Palmetto AVIATION

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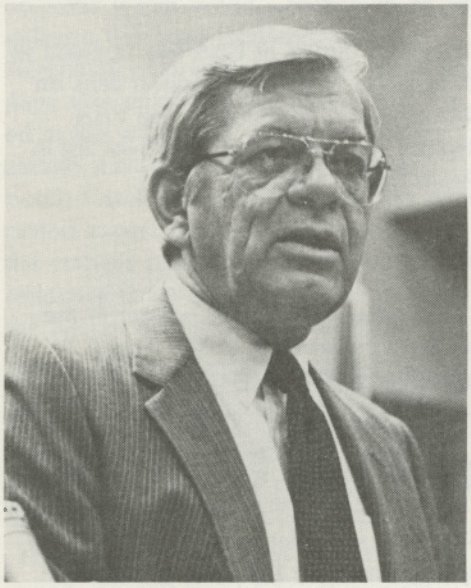
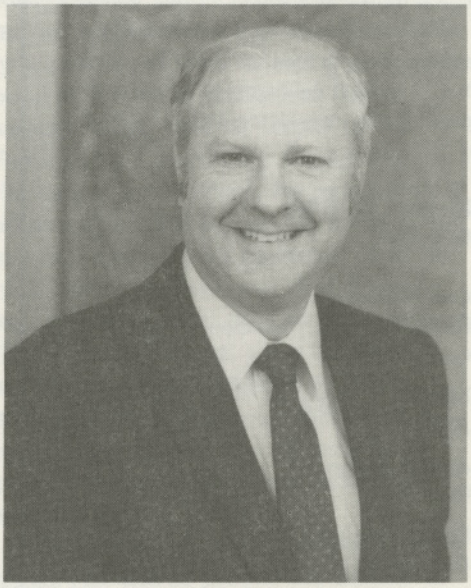
S.C. Airports Conference to feature Jonathan Howe, John Baker in debate



JOHN BAKER
AOPA President



JONATHAN HOWE
FAA Regional Director

John Baker, the little guy's general aviation champion and Jonathan Howe, director of the 13 state FAA Southern Region, will be the featured speakers at the seventh annual South Carolina Airports Conference this month in Charleston.

The two speakers, who usually represent widely divergent views, will go head to head during a one-hour debate at the conference luncheon, Thursday, Aug.30. Each speaker will have 20 minutes to make a statement, then 10 minutes for rebuttal. George Kosko, a Columbia attorney, will moderate the debate.

The luncheon debate is certainly a highlight of the conference, but several business sessions, aimed at the small airport operator, are also planned.

Tuesday morning, there will be a panel discussion on airport profitability, a presentation on airport public relations and a panel discussion on airfield pavement maintenance. Following the luncheon, a mini planning conference will be held to plan airport development for the coming year.(see related article, this page) A cocktail party sponsored by the Charleston County Aviation Authority will conclude the formal activities Thursday.

Friday morning, from 9 to 10 a.m. Aeronautics Commission Director John Hamilton and Atlanta Airports District Office Manager Harold Little will discuss airport development for 1984-85. Following that session, attendees will be treated to a tour of the new Charleston International Airport passenger terminal building.

The conference will be held Aug.29-31 at the Charleston Airport Marriott, one of the newest facilities in the Port City. Registration will be from 2 to 5 p.m. Wednesday, Aug. 29. A pre-conference cocktail party will be held from 5:30 to 7:30 p.m.

Room rates during the conference are $45 for a single and $55 for a double. Those planning to attend should make reservations as soon as possible. If you have not received a reservation request form, tell the reservations clerk at the hotel that you will be attending the S.C. Airports Conference so you will be eligible for the lower conference rate.

Write or call the hotel at the following: Charleston Marriott Hotel, 4770 Marriott Dr., Charleston, SC 29405. Telephone (747-1900.) ✈

Conference agenda, related articles, back page

Mini-planning Conference Set

The Aeronautics Commission will convene a special meeting with all airport sponsors immediately following the Thursday luncheon.

This mini-planning conference will address procedures for planning capital improvements projects and the steps required for the acquisition of state funding.

Ample time will be afforded sponsors for discussion of specific problems or project needs.

Sponsors will receive the required applications and forms to apply for state matching funds.

PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the S.C. General Assembly to foster and promote air commerce within the state.

Offices at Columbia Metropolitan Airport
Mailing Address:
Post Office Drawer 1987
Columbia, South Carolina 29202
Phone: (803) 758-7704

Security interest of aircraft finance company voided by bankruptcy of aircraft dealer

By Henry M. Burwell, Esq.

In May 1984, a US Bankruptcy Court for the District of Minnesota voided the security interest of Cessna Finance Corporation in an aircraft it financed for one of its dealers. The dealer was Star Aviation in South Dakota.

The facts show Star sold an aircraft in January 1983 under a conditional sales contract with a security agreement. Star assigned its rights to receive payment with its security interest to Cessna Finance Corporation. Two months later in March 1983 Cessna recorded its documentation with the Federal Aviation Administration at the FAA Registry in Oklahoma City. The filing and recordation of the security agreement completed the acts necessary to perfect a security interest in favor of Cessna according to Minnesota law. Two and one half months later in May 1983, the purchaser of the aircraft filed for a voluntary dissolution under the U.S. bankruptcy laws (Chapter 7).

The trustee in bankruptcy argued that because Cessna failed to record its security interest within 10 days after the aircraft purchase, that the transfer to Cessna was voidable under bankruptcy law (11 U.S.C §547). The court agreed. The effect of the ruling was to give the bankruptcy trustee the right to cancel the transaction.

Legislative Developments

49 F.R. 17111:

Office of Counsel at FAA has updated its list of states from which artisan liens on aircraft will be accepted by the FAA Registry for recordation. The new list includes South Carolina.

** Mr. Burwell is resident partner in the law firm of Barringer, Allen, Pinnix & Burwell in its Greenville, S.C. office.* ✈

Flight Service Station Update

Here is the latest list of Automated FSS (AFSS) site selections.

The new locations are shown in bold type, followed by the existing stations which will be closed when AFSSs are commissioned.

1. **Terre Haute, Ind.** — South Bend, Fort Wayne, Lafayette, Indianapolis
2. **DeRidder, La.** — Shreveport, Monroe, Alexandria Lake Charles, Lafayette, New Orleans
3. **Altoona, Pa.** Philipsburg, Pittsburgh.
4. **McAlester, Okla.** — Tulsa, Oklahoma, Ponca City. Gage, Hobart.
5. **Kankakee, Ill.** Rockford, Chicago.
6. **Green Bay, Wis.** Houghton, Marquette, Eau Claire, Wausau, La Crosse, Lone Rock, Milwaukee.
7. **Dayton, Ohio** — Columbus, Cinncinnati.
8. **Islip, N.Y.** — Poughkeepsie
9. **Conroe, Tex.** — Houston, Galveston, Palacios, College Station, Lufkin.
10. **Reno, Nev.** — Lovelock, Elko, Ely, Tonopah, Las Vegas
11. **Bridgeport, Conn.** Windsor Locks, Boston (Mass.)
12. **Macon, Ga.** —Atlanta, Savannah, Albany, Alma, Valdosta.
13. **Leesburg, Va.** —Roanoke, Danville, Newport News, Salisbury (Md.)
14. **Cleveland Ohio** —Youngstown, Findlay, Zanesville.
15. **Denver, Colo.** —Grand Junction, Eagle, Akron, La Junta, Trinidad.
16. **Nashville, Tenn.** — Crossville, Knoxville, Tri Cities.
17. **Tamiami, Fla.** — Fort Myers, Key West.
18. **Columbia, Mo.** — Kansas City, Joplin, Springfield.
19. **Princeton, Minn.** — Minneapolis, Redwood Falls, Hibbing, Alexandria, Rochester.
20. **Fort Dodge, Iowa** — Mason City, Des Moines, Ottumawa, Cedar Rapids, Burlington.
21. **Prescott, Ariz.** — Yuma, Phoenix, Tucson, Douglas.
22. **St. Petersburg, Fla.** — Melbourne, Orlando, Vero Beach.
23. **Cedar City, Utah** — Salt Lake City, Bryce Canyon.
24. **Lansing, Mich.** — Detroit, Jackson, Pellston, Sagnaw. Traverse City.
25. **Ft. Worth, Texas** — Amarillo, Abelene, Dalhart, Dallas, Mineral Wells, Wichita Falls, Lubbock, Childress.
26. **Columbus, Neb.** — Chadron, Grand Island, Lincoln, North Platte, Omaha, Scottsbluff, Sidney.
27. **Anderson, S.C** — Charleston, Florence, Greer, Myrtle Beach.
28. **Grand Forks, N.D.** —Dickinson, Jamestown, Minot.
29. **Huron, S.D.** — Aberdeen, Pierre, Rapid City, Watertown.
30. **Juneau, Fairbanks, and Kenai, Alaska** — Anchorage, Barrow, Bethel, Bettles, Cold Bay, Cordova, Deadhorse, Delta Junction, Dillingham, Farewell, Gulkana, Homer, Iliamna, Ketchikan, King Salmon, Kotzebue McGrath, Nome, Northway, Palmer, Sitka, Talkeetna, Tanana, Yakutat.
31. **Wichita, Kan.** — Chanute, Dodge City, Emporia, Garden City, Goodland, Hill City, Manhattan, Russell, Salina.
32. **Long Beach, Calif.** — Paso Robles, Los Angeles, Santa Barbara.
33. **Riverside, Calif.** —Bakersfield, Daggett, Lancaster, Needles, Ontario, Thermal.
34. **Seattle, Wash.** — Bellingham, Ephrata, Hoquiam, Spokane, Walla Walla, Wenatchee, Toledo.
35. **McMinnville, Ore.** — Baker, The Dalles, North Bend, Portland, Redmond.
36. **Williamsport, Pa.** — Harrisburg, Philadelphia, Wilkes, Barre.
37. **St. Louis, Mo.** — Cape Giradeau, Decatur (ILL) Quincy (Ill.)
38. **Millville, N.J.** — Teterboro.
39. **San Angelo, Tex.** — Alice, Austin, Cotulla, McAllen, Midland, San Antonio, Wink.
40. **Burlington, Vt.** — Lebanon, Montpelier, Albany (NY) Glens Falls (NY) Messina (NY) Utica (NY) Watertown (NY)
41. **Bangor, Maine** — Augusta, Houlton, Concord (NH).

Aircraft Registration Act, Financial Responsibility law have smiliar requirements

by George Kosko

Under South Carolina law the registration of all aircraft operated in South Carolina must be accomplished before June 30th each year. A number of my clients have sought advice because of the insurance requirements of both the Registration Act, and the Uniform Aircraft Financial Responsiblity Act.

The Registration Act was initally enacted by our Legislature in 1972. It was subsequently amended in 1978 (§55-7-20). The Registration Act makes it unlawful to operate or cause to be operated within South Carolina an aircraft unless it has been registered with the Aeronautics Commission within thirty (30) days after entry into the State if it is based in this state. The law states that an aircraft shall be considered based in South Carolina if it is operated here for a period exceeding thirty (30) days, or if the owner's principal place of business or residence is within South Carolina and the aircraft operates from that location.

Breakfast Club

The S.C. Breakfast Club meets every other Sunday at 10 a.m. Scheduled meetings through Nov. 18 are as follows:

August 12	Darlington County, Dovesville
August 26	Clemson-Oconee County, Clemson
Sept. 9	Davis Field Estill
Sept. 23	Newberry Municipal Newberry
Oct. 7	Holly Hill
Oct. 21	Orangeburg Municipal (annual meeting)
Nov. 4	Lancaster County, Lancaster
Nov. 18	Huggins Airport, Timmonsville

The application for registration must include a Certificate of Insurance certifying certain limits of liability protection. These limits, as set forth in §55-7-20, as amended in 1978, are $100,000.00 of combined single limit liability, bodily injury and property damage coverage, to include passengers, or in the alternative, a policy providing at least $100,000.00 bodily injury liability protection for each person who is not a passenger not to exceed $300,000.00 liability fo all non-passengers injured in each occurrence.The policy must also provide $100,000.00 property damage liability per occurrence. These are the limits that have been applicable since 1978.

In 1978 the South Carolina General Assembly enacted the Uniform Aircraft Financial Responsibility Act. This is a rather complex peice of legislation. I will discuss some of the non-insurance aspects of this law in subsequent editions of this newsletter. As far as insurance concerned , the act,(§55-8-40) only requires an insurance policy or surety bond in the event of an airplane crash. If you are positive that you are not going to have an airplane accident then there is no need to be concerned about the insurance provisions as required under this Financial Responsiblility Act. However, in order to register your aircraft you must have the appropriate liability insurance.

The Uniform Financial Responsibility Act requires that within thirty (30) days after an accident report, the South Carolina Aeronautics Commission determine, in a written order, the amount of security which it deems sufficient to satisfy any judgment for damages which might be recovered against the owner or operator of the aircraft. This order will not be necessary if there has been no injury to any person other than the operator of the aircraft, and no property damage more than $500.00 caused to property not owned, rented, or occupied by the operater of the aircraft. It is hard to imagine a crash where so little damage is done. If the owner or operator involved in the accident has an insurance policy, then there is no need for him to post security bond. The insurance however, provide certain limits of liability protection. Coverage must be not less than $100,000.00 because of bodily injury or death of one person, or $300,000.00 because of bodily injury or death to three or more persons in one accident. The policy must also provide property damage liability coverage in the amount of $100,000.00. Certain different limits are applicable if the aircraft is operated for hire.

As you can see the insurance requirments are very similar under both the Registration statute and the Financial Responsibility statute. Any person who has an accident and does not have liability insurance, or who cannot post a surety bond in the same amount as the insurance limits, shall be subject to the Aeronautics Commission suspending: 1) if the owner is a resident, his registration of all aircraft owned by him; 2) if the owner is a non-resident, his operating of all aircraft owned by him; and 3) the registration or non-resident operating privilege of the operator. Indeed, these are very severe penalties in addition to the inevitable lawsuit. It is most difficult, if not impossible, to purchase an insurance policy to cover an accident, after the accident.

The Uniform Aircraft Financial Responsibility Act was to protect the citizens of South Carolina. It is similar to the Automobile Financial Responsibility Act, and as its name implies, requires operators of aircraft in South Carolina to maintain financial responsibility for any accidents in which they might be involved.

Mr. Kosko is an attorney in private practice in Columbia specializing in aviation law. ✈

Cheraw show set Sept. 16

The annual Cheraw Air Show, sponsored by the Cheraw Kiwanis Club,' will be held Sunday, Sept. 16 at the Cheraw Airport.

Recreational Sportplanes emerging as a separate class of aircraft

Something very exciting is happening in aviation. A new 'class' of aircraft is emerging... bridging the gap between ultralights and traditional lightplanes. The new machines, known as ARVs—Aircraft Recreational Vehicles—should foster a tremendous resurgence in flying.

For the first time in the history of aviation, aircraft are being developed and sold solely for recreational purposes, and successfully at that. Until recently, flying machines have always had to have their existence justified either through military sevice, or by commerce and industry.

With ARVs, recreation is first. They are as inexpensive as ultralights to own and operate, yet offer reasonably fast, efficient cross-country transportation. They can take you from A to B in comfort, offering real utility. The ARV is the logical class for ultralighters to progress to as they tire of 'going-around-in-circles.' ARVs also offer a viable flight alternative to licensed pilots. Many are two-seaters, enabling you to share your flying experiences with a friend...something many ultralight pilots would like to do.

AGE OLD DREAM

The rising popularity of ultralights has proven the public is very much interested in realizing the age old dream of man—flying. Yet they probably represent only the 'tip of the proverbial iceberg.' With the coming streamlining of the FAA's amateur-built rules, more appropriate aircraft certification requirements, and the release of the long-awaited Recreational Pilots License, flying should experience a growth unparalleled in all of aviation history.

Since the time of the Wright brothers, engineers have strained to develop inexpensive sportsplanes the average working man could afford.Today,that goal is alive and well—stronger than ever. At various times since the turn of the century, individuals, groups and organizations have tried to make 'it' happen. Men like Santos Dumont, Ed Heath, Henry Migner, Paul Poberezny and Burt Rutan come to mind. They stirred the imagination and got people flying.

Contrary to modern 'coinage,' the ARV has existed since the first decade of the century. Many designers and visionaries were far ahead of their time. Many tried to popularize the ARV concept, and some even met with limited success. But, intervening world events, like wars and the great depression, took their toll. The great dream of "an airplane in every garage" wasn't even remotely possible until mid-centry. A lot of homework had of be done before 'it' could happen. In the early 20s, 1923 & 24 to be exact, the Lympne Lightplane Trails took place—the first such event in history. Many light and ultralight designs resulted. The first all metal monocoque design appeared. Power was supplied by converted motorcycle engines, then specially designed aero engines were built.

EAA BEGAN

In 1953, Paul Poberezny organized the Experimental Aircraft Association (EAA), which now has over 70,000 active members in over 600 chapters worldwide. The EAA is, in fact, the backbone of the sport aviation movement, and works closely with the FAA in aiding its orderly, sensible development. It is solely responsible for providing the necessary framework within which sport aviation can thrive.

In 1962, The EAA sponsored its first design competition.It was won by a conventionally construted wooden airplane called the Fly Baby, designed by Pete Bowers. Then, in 1981, the FLYER NEWSPAPERS, in conjunction with the EAA, Dupont and Cuyuna Engine Company, sponsored the ARV design competion. It attracted 126 entries from all over the world. Forty-four in the ultralight category (under 254 pounds), while 84 were in the lightplane category (under 350 pounds). The Fly-off and judging was held at the EAA's 1983 Oshkosh convention. Never before had there been so much interest in new sport aircraft design.

So what is ARV anyway? Basically, it is a single or two-place machine that looks like an airplane (as opposed to a powered hang glider). It features conventional three-axis aerodynamic controls, perhaps flaps, and has a partially or totally enclosed cabin. Most are fast enough to provide decent cross-country performance. They are not as gust sensitive as ultralights, and offer more creature comforts to pilot and passenger. They are also built like conventional aircraft, though many use composite construction techniques.

PILOT'S LICENSE

The ARV must be inspected and registered as amateur-built, and the operator must possess at least a student pilot's license. It would normally be operated out of smaller, uncontrolled fields, but if equipped with proper radios, it could indeed be flown from any airport that accepts lightplanes. It is powered by a smaller engine (under 50 hp)and carries less fuel than a Cessna 152.

In essence, the ARV represents a 'reinvention' and re-discovery of the airplane by a new generation of designers and would-be aviators. They discovered the joys of flight in an ultralight, and awoke to flying's potential as a fast, efficient form of transportation. Out of frustration with conventional aviation and bold in the face of the FAA, these men were bound and determined to make aircraft that were both affordable and fun to fly. Barred by conventional aviation's 'rich man,' almost snobbish indifference to the 'little guy,' the new breed of designers is determined to make the 'age of flight' a reality for anyone who has the desire to fly.

Several designs, like the Quickie, actually existed before the ARV competition was announced, while others were introduced during it, but not entered. They broke new ground without realizing they had struck an 'iceburg'. New blood had entered mainstream aviation by the 'backdoor,' and the public was eagerly waiting to support it. Curiously, traditional lightplane manufacturers have elected to ignore the existence of the market for ARVs. The new aviation entrepreneur will have to fill the skies. Someone once said that, 'When the men in the factories who build airplanes can afford to buy them, we'll have a boom.' The opportunity for a boom in aviation is here —

Aviation Space Magazine ✈

Cherokee county gets priority designation

A new airport in Cherokee County is one of 22 airport projects nationwide designated by the Senate Appropriations Committee for priority funding.

The recommendation was made in a report that accompanied the transportation appropriations bill, H.R. 5921.

The Airports scheduled to receive the priority funds are:

1. Bismark Airport, ND.
2. Cherokee County Airport, SC.
3. C.E. Hancock Field, NY.
4. Devils Lake Airport, ND.
5. Dutch Harbor Airport, AK.
6. Fargo Airport, MD.
7. Greater Buffalo Airport, NY.
8. Greater Pittsburgh Airport, PA.
9. Harrisburg Airport, PA.
10. Hobbs Airport, NM.
11. Hollywood-Fort Lauderdale Airport, FL.
12. Jackson County Airport, MS.
13. Jametown Municipal Airport, ND.
14. Las Cruces Airport, NM.
15. Medora Airport, ND.
16. Niagra Falls Airport, NY.
17. Orlando Airport, FL.
18. Scranton Wilkes-Barre Airport, PA.
19. Shawnee Airport, OK.
20. Tulip City Airport, MI
21. Williston Airport, ND.
22. Yazoo City Airport, MS.

Whirly-Girls Scholarships to be awarded

For 1985, the 30th Anniversary of the Whirly-Girls, two scholarships ($4,000 each) will be awarded next January to deserving women pilots for use in obtaining an initial or an add-on helicopter rating, Ellen Corder, President of the The Whirly-Girls Scholarship Fund announced.

Each year, since 1968, The Whirly-Girls, international association of women helicopter pilots, has awarded the Doris Mullen Scholarship in memory of Whirly-Girl -84. The 1985 Doris Mullen Scholarship will be awarded to a commercial woman pilot to achieve her initial helicopter rating.

For this anniversary year, in memory of Charter Member Hanna Reitsch, Whirley-Girl -1, the second Scholarship will be awarded to a Whirly-Girl to allow her to pursue additional helicopter ratings to further her degree of professionalism and marketability as a professional pilot in the helicopter industry.

Applicants for the 1985 Doris Mullen Scholarship must have true financial need and currently hold a commercial airplane license. They must be representative of the high standards upheld by The Whirly-Girls and must have demonstrated a strong desire and a sincere effort to pursue a career as a helicopter pilot.

Applicants for the 1985 Hanna Reitsch Anniversary Scholarship, also must have true financial need and be an active member of The Whirly-Girls. They must have demonstrated a sincere effort to pursue a career in the aviation industry, with a genuine desire to specialize in helicopters and be representative of the Whirly-Girls' high standards.

Scholarship applications are available from The Whirly-Girls, Suite 700, 1725 De Sales Street, N.W. Washington, D.C. 20036, U.S.A. Applicants are asked to indicate the scholarship for which they are applying.

Deadline for receipt of completed applications, with a check for $10 enclosed, payable to The Whirly-Girls Scholarship Fund, to cover the cost of processing and mailing, is NOVEMBER 1, 1984.

The Scholarships will be presented at The Whirly-Girls Scholarship Awards Dinner, January 18, 1985 at the New Orleans Hilton Hotel.

Organized in 1955 with the 13 women helicopter pilots in France, Germany and the U.S.A. The Whirly-Girls now number 450 in 25 countries. The Scholarship program has had the support of the Flying Physicians Association, the helicopter manufacturers, The Men's and Ladies Auxiliaries, husbands instructors, and military, aviation and civilian friends. ✈

NTSB asks laws to fight drunk flying

The National Transportation Safety Board (NTSB) has recommended a new batch of tough laws to combat drunk flying.

The board cited statistics showing more than 10 percent of a sample of pilots killed in general aviation accidents had alcohol in their blood. Six percent of commuter pilots and seven percent of air taxi pilots killed in accidents also tested positive for alcohol.

The board suggested that the FAA adopt an "implied consent" regulation that would require pilots to agree to alcohol testing as a condition of issuance of an airman certificate.

It also suggested that a pilot with any detectable alcohol whatsoever in the bloodstream be considered "under the influence" and subject ot legal action. The board pointed out that the current rule on alcohol—eight hours from bottle to throttle—is simply unenforceable. ✈

FAA wants ADF specs improved

Because of congestion in the low and medium frequency ranges, the FAA is recommending that Automatic Direction Finder (ADF) standards be improved.

Specificaly, an increase in the tuning range and a tighter selectivity have been recommended.

The new specifications are set forth in a document written by the Radio Technical Commission for Aeronautics called DO-179, Minimum Operational Performance Standards. A minimum tuning range of 190-535 kHz is recommended.

Additional information may be obtained from the following office:

Federal Aviation Administration
Systems Engineering Service
Spectrum Engineering Division,
AES-500
800 Independence Ave. SW
Washington, DC 20591 ✈

Thunderstorms – Don't Flirt With

Pilots Beware! Within the route you intend to fly may lie a summer hazard in wait for the unwary—the Thunderstorm.

The thunderstorm, nature's uncontrolled "heat engine"—often encompasses some of the worst weather hazards known to flight. To refresh and update the pilot's knowledge of thunderstorms and associated weather hazards, we offer the following:

The basic requirements for formation of a thunderstorm are:
(1) Unstable air
(2) An initial updraft
(3) High moisture content of the air

Why, you may ask, with these same conditions present, do we have fair weather cumulus clouds one day and thunderstorms rampant the next? There is no simple answer, however, it is known that latent heat released by condensation of existing water vapor may increase the buoyancy of a rising air column until that rising air column becomes self-sustaining. The updraft then becomes the 'burner chamber,' drawing fuel from below until its fuel source is exhausted or an intermediate layer of dry stable air is encounted. The by-products of this uncontrolled "heat engine" are clouds and precipitation and sometimes vertical currents strong enough to literally disintegrate the ordinary light aircraft.

The general aviation pilot must contend with thunderstorms of varying intensities in virtually all parts of the country and should be aware that all thunderstorm cells progress through three distinct stages which are more commonly called the lifecycle. These stages are:
(1) Cumulus
(2) Mature
(3) Dissipating

The severity of any thunderstorm is governed by the make-up of the mature stage. While most *cumulus* clouds do not become thunderstorms, the inititial stage is always the cumulus cloud. The main feature of the cumulus cloud which will develop into a thunderstorm, is the predominate updraft. This updraft may extend from the earth's surface to several thousand feet above the visible cloud tops. During the cumulus stage, tiny cloud droplets grow into rain drops as the cloud builds upward.

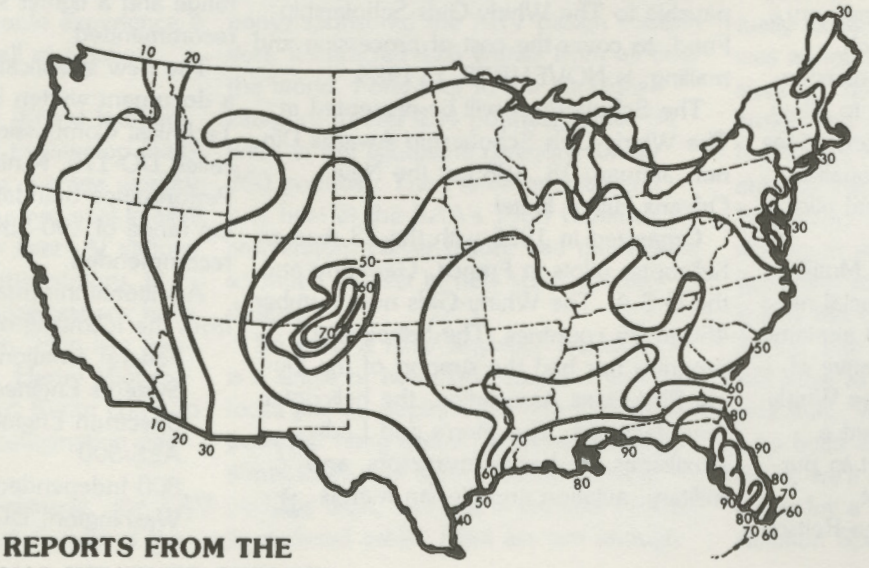
When these droplets become so large they can no longer be supported by the existing updraft, they begin to fall. This marks the beginning of the *mature* stage and usually occurs some ten to fifteen minutes after the cumulus cloud has built upward beyond the freezing level. Thunderstorm cells which progress rapidly through the mature stage are said to be *"limited state"* thunderstorms.

In the "limited state" thunderstorm, the mature stage is self-destructive until the updraft will no longer support the rain drops, and precipitation begins to fall through the updraft. The buoyancy of the air is decreased until the updraft becomes a downdraft. The cool precipatation tends to cool the lower portion of the cloud and thus its fuel supply is cut off, the cell loses its energy and the storm dissipates. When all water droplets have fallen from the cloud the *dissipating* stage is complete.

If, in the *mature* stage, the updraft and downdraft areas remain equally balanced, the mature stage may then become a "steady state" thunderstorm cell in which extreme turbulence and large hail may predominate. The "limited state" thunderstorm cell may last from twenty minutes to one and one-half hours while the "steady state" thunderstorm may last as long as twenty-four hours and travel for one-thousand miles.

Many pilots have flown through *"limited state"* thunderstorms with little or no damage to the aircraft or passengers. They can only consider themselves extremely fortunate for any thunderstorm is, again, an uncontrolled *"heat engine"* and may produce any or all of the most violent weather hazards, such as hail, ice and turbulence, a pilot will ever

Average number of THUNDERSTORM DAYS per year



BASED ON REPORTS FROM THE U.S. NATIONAL WEATHER SERVICE

These Summer Hazards...Skirt'em

encounter.

The information presented here should be considered minimum basic knowledge on the subject of thunderstorms and is presented in an effort to alert the pilot to the potential hazard of flight in or near thunderstorm activity. We suggest further that the pilot obtain a thorough weather briefing for the area involved and seriously consider the following in making a *Go/No Go decision:*

(1) Pilots, particularly those flying light aircraft, should avoid all thunderstorms.
(2) Pilots should never venture closer than five miles to any visible storm cloud with overhanging areas because of the possibility of encountering hail. Hail and violent turbulence may be encountered within 20 miles of very strong thunderstorms.
(3) Pilots should be extremely cautious in attempting flight beneath all thunderstorms, even when visibility is good, because of the destructive potential of shear turbulence in these areas.
(4) Pilots flying in the vicinity of thunderstorms should, at the first sign of turbulence, reduce airspeed immediately to the manufacturer's recommended airspeed for turbulent air penetration for a specific gross weight.
(5) Maintain a straight and level attitude on a heading that will take you through the storm area in the minimum time.
(6) Do not let compulsion take the place of good judgement—the first decision need not be your last if it's a one-hundred-eighty degree turn—*Safety is Always Professionalism.*

WEATHER RADAR

ITS CAPABILITIES

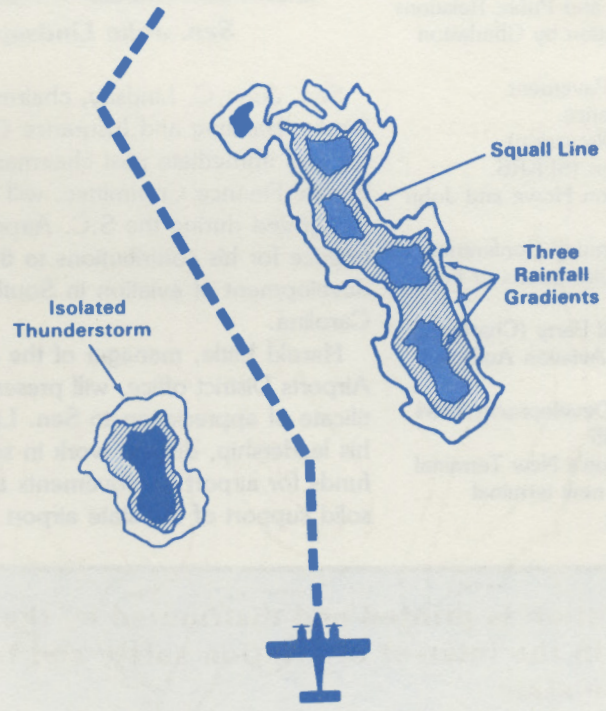
- Detects and displays significant weather within a specified sector related to the route of flight.
- Precisely measures rainfall density of targets under observation. This can frequently be related to turbulence associated with rainfall gradients.
- Provides greater comfort for passengers and crew.
- Substantially increases aircraft utilization.
- Promotes safer all-weather flying.

AND ITS LIMITATIONS:

- Weather radar cannot directly detect turbulence even though it might be related to thunderstorm activity.
- Utilizing radar for weather avoidance requires operational *experience* and *expertise.* Interpreting the display is not an exact science but depends largely on the operator's general knowledge of the forecasted weather. It also requires the operator to have an *intimate* acquaintance with his own radar system, its capabilities...and its limitations.
- Don't expect weather radar to detect dry snowfall, cloud icing (unless associated with precipitation) or other aircraft.
- Detects weather targets only when they are illuminated by the radar beam. Tilt management of the radar antenna is, therefore, very important.

OPERATIONAL FUNCTIONS AND FEATURES:

- Weather radars available today usually provide good to excellent terrain capability.
- Some weather radars also detect surface targets on water, such as ships, buoys and oil drilling rigs.
- Some systems provide radar homing beacon capability. That's the ability to "home in" using radar with a particular cooperating (transmitting) ground station.
- Digital memory technology permits continuous nonfading displays, similar to home TV.
- In addition, multi-function color displays provide three levels of rainfall intensity in discrete colors, along with HSI/RNAV/VOR navigation profiles in a "moving map" presentation. Programmable check lists, RNAV waypoint data, pilot controlled electronic azimuth track line, and many other types of information can be programmed and displayed in the new multi-function airborne weather information systems.
- Installations in certain single engine aircraft, utilizing wing pods, are now available.



SOUTH CAROLINA
AERONAUTICS COMMISSION
P.O. Drawer 1987
Columbia, South Carolina 29202

Conference Agenda Seventh Annual S.C. Airports Conference

WEDNESDAY, AUGUST 29

2:00-5:00	Registration (Lobby) Pre-Conference Cocktail Party - Pool side

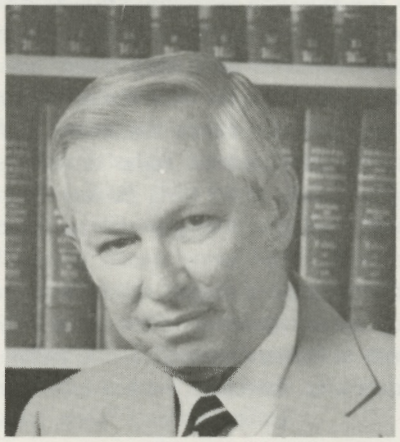
THURSDAY, AUGUST 30

9:00-9:15	Welcome remarks
9:15-10:15	Airport Profitability (Panel Discussion)
10:15-10:30	Coffee Break
10:30-11:00	Airports and Public Relations
11:00-11:30	Presentation by Charleston AFB
11:30-12:15	Airfield Pavement Maintenance (panel Discussion)
12:15-1:00	Luncheon (SPKRS. Johnathon Howe and John Baker)
1:30-2:30	Mini-Planning Conference
2:30-5:00	Group Discussions or Free time
6:00-8:00	Cockktail Party (Charleston County Aviation Authoity)

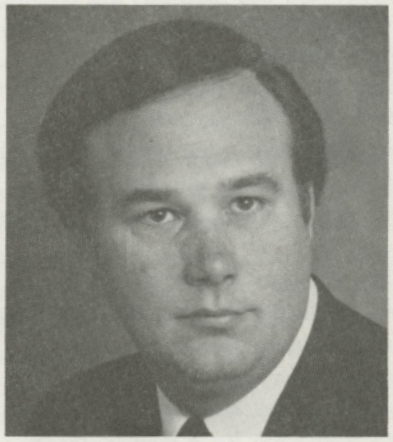
FRIDAY, AUGUST 31

9:00-10:00	Airport Development 1984 and 1985
10:00-10:20	Charleston's New Terminal
10:30-12:00	Tour of new terminal complex

Lindsay to receive citation, Kosko to moderate debate



Sen. John Lindsay



George Kosko

Sen. John C. Lindsay, chairman of the Senate Banking and Insurance Committee and immediate past chairman of the Senate Finance Committee, will be recognized during the S.C. Airports conference for his contributions to the development of aviation in South Carolina.

Harold Little, manager of the Atlanta Airports District office, will present a certificate of appreciation to Sen. Lindsay for his leadership, diligent work in securing funds for airport improvements and his solid support of the state airport systems.

George Kosko, a Columbia attorney, will moderate the debate between John Baker and Jonathan Howe during the S.C. Airports Conference luncheon Tuesday, Aug. 30.

Each speaker will have 20 minutes for statements plus 10 minutes for rebuttals. "This is a real coup, getting these two men together at the same time," Kosko said. "I think everyone will find it most interesting and informative."

ETV will record the debate for later possible broadcast over public television stations.

This publication is printed and distributed by the South Carolina Aeronautics Commission in the interest of aviation safety and to foster the growth of responsible aviation in the state.